Briefing: Improving Academic Achievement by Meeting Student Health Needs

Overview

The purpose of *No Child Left Behind* Act of 2001 (NCLB) is "…to ensure that all children have a fair, equal, and significant opportunity to obtain a high-quality education and reach, at a minimum, proficiency on challenging …academic achievement standards and academic assessments…" NCLB requires schools to describe success by what each student accomplishes. The basic NCLB principles are stronger accountability for results, increased flexibility and local control, expanded options for parents, and emphasis on proven teaching methods.[1] Iowa is progressing in this education reform and building on these reforms by using multiple policy strategies to improve what each student accomplishes through the district comprehensive school improvement plan.[2] For many of Iowa's approximately one-half million students, academic achievement will occur with implementation of the strategies. For other students, academic achievement may be lower than expected because students are not ready and able to learn when they arrive at school. There is a need to focus on eliminating barriers that affect these low-performing students' readiness to learn. Among these barriers are physical, emotional, and social health conditions that impact students' ability to succeed. Although the primary responsibility of public schools is to educate students, health interventions provide a significant impact on the ability of students to learn.

To assist schools in ensuring that students come to school ready to learn, this paper sites research linking student health and achievement focusing on health services, physical fitness, nutrition, health education, and the school environment with design data-driven programs. Accomplishing improved student academic performance requires incorporating health and increasing interagency partnerships between the health, human services, and education communities. Schools meeting their student's health needs through scientific based research programs have the potential to increase all students' capacity to learn.

The Role of Student Health in Academic Achievement

Although Iowa progresses in school improvement, there is an emerging crisis to improve student achievement because some students continue to perform poorly and come to school not ready or able to learn. With all students being at risk and over one-half of all students having health conditions, research links healthy students and improved academic achievement. This scientific research provides direction for schools to incorporate school health programs to improve academic achievement. In addition, health promoting communities and schools are addressing the needs of students in poor health and not learning well, students with poor health practices which drain educational resources, and student choices affecting their health. The results are encouraging.

Coordinated School Health Programs (CSHP)

Health promoting communities and schools become a reality through "coordinated school health," an integrated set of planned, sequential, school-affiliated strategies, activities, and services designed to promote the optimal physical, emotional, social, and educational development of students. Coordinated school health programs are supportive of families, determined by the local community, and based on community needs, resources, standards, and requirements. The program is coordinated by a multidisciplinary team and accountable to the community for program quality and effectiveness. Critical areas to consider in designing a program are health, counseling, psychological, social, nutrition, and food services. Second, physical fitness, health education, and other curricular areas. Third, the school environment, including physical, policy and administrative, and psychosocial environments. The most common models include:

- The three-component model-health education, health services, and healthful environment.
- The eight-component model-health education, physical education, health services, nutrition services, school staff health promotion, counseling and psychological services, healthy school environment, and parent and community involvement.
- Full-service schools-quality health education, a wide range of health services, mental health services, and family welfare and social services for students and their families [3]

Model School Health Programs

The following programs improved the health of students and, as a result, their ability to learn.

- ***Iowa School-Based Youth Service Programs.*** A study of 22,403 students participating in Iowa School-Based Youth Services Programs, with multiple services-including health services, documented student improved or maintained attendance and improved or maintained grade point average.[4] These results were demonstrated repeatedly over 10 years.
- ***Healthy and Well Kids in Iowa (hawk-i).*** The evaluation, of this Iowa Child Health Insurance Program for low income uninsured children, was based on a comparison of parents' responses to a survey given when their children were initially enrolled in the program and survey responses one year later. The survey questions focused on parents' perceived ability to receive medical, dental, vision, behavioral health care, and prescription drugs for their children. Key findings of the survey show that, after one year in the ***hawk-i*** program, parents report; overall, their children are healthier, had significantly fewer sick days and missed less school, fewer emergency room visits, were significantly more likely to have a personal doctor or nurse, and a significant reduction in family stress with over 90% of the respondents citing this as a program benefit.[5]
- ***New Jersey School Based Youth Services Program.*** A statewide initiative to integrate a range of services in one location in or near schools in a three year evaluation found students receiving services increased educational aspirations; accumulated a

higher number of credits toward graduation; diminished feelings of unhappiness, sadness, depression, and suicidal thoughts; improved sleep, worried less; and experienced more engagement with families and friends.[6]

- ***California's Healthy Start Support Services for Children.*** Schools and collaborative partners coordinated and integrated services-including health screening, counseling, dental, and vision care-across different child and family serving systems to make services more accessible at or near the school. An evaluation based on data collected found student academic achievement increased significantly. Test scores for schools in the lowest quartile improved substantially, reading scores for the lowest-performing elementary schools increased by 25 percent and math scores increased by 50 percent. Students in the lowest quartile showed similar improvements. Middle and high school students, most in need, improved their grade point averages by 50 percent, adding 0.8 and 1.2 to their GPA.[7]
- ***Florida's Coordinated School Health Program (CSHP) Pilot Schools.*** Schools incorporated the eight CSHP components into their activities to enhance student health and promote the achievement of State Standards. Following the implementation of CSHP, two middle schools reported their Florida Comprehensive Assessment Test (FCAT) math scores improved by an average of 11.5 points and FCAT reading scores by an average of 15 points. Student attendance also increased at each school.[8]
- ***Vermont's Use of Youth Risk Behavior Survey.*** Vermont used the Centers for Disease Control and Prevention-Youth Risk Behavior Survey (YRBS) to monitor six categories of priority health-risk behaviors among youth and young adults. Vermont amended the survey to include questions about student achievement. The results showed a negative correlation between risk behaviors and academic performance. Low-performing school districts received assistance to develop a strategic plan to improve student achievement. The data correlated risk behaviors with low academic performance.[9]
- ***SAMHSA Model Programs:*** Model Prevention Programs Supporting Academic Achievement. A number of programs directly addressing or indirectly affecting risk and protective factors related to school performance.[10]

Other selected research

- **Physical Fitness.**
  - Schools offering intensive physical fitness programs found positive effects on academic achievement even when time for physical activity is taken from the academics including increased concentration; improved mathematics, reading, and writing test scores; and reduced disruptive behavior.[11, 12]
  - Reduced academic class time, 240 minutes per week, in two schools to increase physical fitness time resulted in experimental group math scores to be consistently higher than others not in the program.[13]
  - The California Department of Education Healthy Kids Program found the lowest performing schools had lower student physical activity levels, with little difference across schools in the top three quintiles. This suggests lowest performing schools may benefit from quality physical fitness programs.[7]
  - A California Department of Education study found physically fit children perform better academically showing a distinct relationship between academic achievement and the physical fitness of California's public school students.[14]
- **Nutrition.**
  - Healthy, well-nourished children are more ready to learn and can take better advantage of educational opportunities linking poor nutrition with lasting cognitive development and school performance effects.[15]
  - Minnesota and Massachusetts studies found students who ate breakfast at school increased standardized achievement test scores and class participation, improved attendance, and reduced tardiness.[16, 17]
  - U.S. DHHS found students eating breakfast improved academic, behavioral, and emotional functioning.[18]
  - Students eating National School Food Program lunch had higher nutrient intakes than students who make other lunch choices.[19]
  - Appropriate diet studies found improved problem-solving skills, test scores, and school attendance rates.[20]
  - Negative cognitive development and school performance was found on moderate undernourishment.[21]
- **Health Education.**
  - A study of 259 high-risk youth in a life-skills class, grades 9-12 in the Pacific Northwest, showed increased grade point averages (GPAs) across all classes while the control group GPAs stayed essentially the same.[22]
  - Schools enhancing child skill development through health education, parenting classes, and teacher training increased student achievement.[23]
  - Three studies demonstrate comprehensive health and social skills programs for high-risk students improved school and test performance, attendance, and school connectedness. This success was still apparent six years later.[24, 25, 26]
- **Health Services.**
  - Absenteeism among students is clearly associated with school failure. Students missing more than 10 days of school in a 90-day semester had trouble remaining at their grade level. School-based (or linked) health services reduce absenteeism by providing on site services. School-based providers detect numerous emotional problems early and institute needed services.[27, 28]
  - Health insurance is valuable in keeping children healthy through access to regular medical care. Children without health insurance are less likely to have a family doctor, receive timely preventive care, receive medical treatment, learn in school, and grow up to be healthy productive adults. Outreach and enrollment efforts related to ***hawk-i*** and other affordable health programs help assure optimal learning for every child by addressing health and maximizing school attendance.[5, 29]
  - School health services are one of the important elements of a comprehensive approach to promoting health and preventing disease and disability in children and youth.[28]
- **School Environment.**
  - The school physical, emotional, psychosocial, culture, and aesthetic environment and climate impact student achievement including:
    - School building, playground, and surrounding area.

    - Physical conditions such as temperature, noise, lighting, air quality, pesticides, moisture, and mildew.
    - Psychosocial environment includes physical, emotional, and social conditions affecting the well-being of students and staff.[28]
- **Parent, Family, and Community School Involvement.**
    - School districts that collaborate with social service providers across other districts, counties, and cities strengthen social structures for students, their families, parents, and observe improved scholastic performance. The combined academic, health, and social programs began to show positive achievement gains by the third year of the project.[30]
    - The relationship between schooling and health outcomes is one of the strongest generalizations to emerge from empirical research in the U.S.[31]
- **School Staff Health Promotion.**
    - A healthy staff does a better job of teaching and creates a better working and learning environment.[28]
    - Staff health promotion programs are supportive messages that can make a difference in morale and absenteeism.[32]

What to Consider in Developing School Health Programs

Districts need to continually eliminate barriers preventing students from coming to school ready and able to learn. To address this issue, schools must consider implementing some of the strategies and philosophies evident in research based school health programs highlighted in this paper. Strategies to address barriers include:

- **Raise awareness of the connections between student health and student achievement**. Continually review the burgeoning research linking student health to student achievement and use the research to incorporate health into the school program.[29]
- **Ensure success by having data driven programs**. Maintain data and evaluations that tie program implementation to improved academic performance.
- **Increase interagency partnerships between health, education, and human service communities**. Help educators understand that health services in schools improves program effectiveness, and service providers need to coordinate with the school's mission of educating students in their work to maximize achievement. [30]

Schools are accountable for their entire mission of education and promotion of successful child development. Coordinated School Health Programming is a fundamental piece of this larger mission. Academic achievement will improve by addressing student health needs and incorporating coordinated school health programs into our comprehensive school improvement system.

[1] U.S. Department of Education. (2002). *No Child Left Behind* Act of 2001 (NCLB). Washington, DC. Retrieved November 2002, from http://www.nochildleftbehind.gov/.

[2] Iowa Code and Iowa Administrative Code. (2002). *Iowa Code Chapters 256, 139A, 232 and Iowa Administrative Code*. State of Iowa: Des Moines, IA. Retrieved January 2003, from http://www.legis.state.ia.us.

[3] Allensworth, D, Lawson, E, Nicholson, L, & Wyche, J. (Eds.). (1997). *Schools & Health: Our Nation's Investment*. Washington, DC: National Press.

[4] Veale, JR, & Morley, RE. (1999, December). *School-Based Youth Services Program (SBYSP) 1997-1998 Year-end Report: Administrative Summary*. Des Moines, IA: Iowa Department of Education

[5] Public Policy Center, University of Iowa. (2001, March). ***hawk-i**: Impact on Access and Health Status*. Retrieved November 2002, from http://health.public-policy-center.uiowa.edu/hawk-i.

[6] New Jersey School Based Youth Services Program. (2000). *Key Evaluation Findings*. Academy for Educational Development. Knowlton, R, Director NJ SBYSP, 609-292-7816, rknowlton@dhs.state.nj.us.

[7] California Department of Education. (1999, March). *Healthy Start Works-Evaluation Report: A Statewide Profile for Healthy Start Sites.* Sacramento, CA. Retrieved December 2002, from http://www.cde.ca.gov/cyfsbranch/lsp/eval/evalworks.htm. Roberts, C, *Healthy Start and After-School Partnership Office*, 916-657-3558.

[8] Florida Department of Education. (1999). *Living and Learning Healthy-Florida's Coordinated School Health Program.* Tallahassee, FL. Kinard, L, Coordinated School Health Programs, 850-488-7835.

[9] Vermont Department of Education. Emberly, N, 802-828-5151.

[10] Northrop Grumman Information Technology Information Technology for the Center for Substance Abuse Prevention. (2002, October). *SAMHSA Model Programs: Model Prevention Programs Supporting Academic Achievement*. U.S. Department of Health and Human Services. Contract No. 277-00-6500.

[11] Dwyer T, et al. (1979) *Community Health Stud, 3*, 196-202.

[12] Sallis, JF, et al. (1999). *Res Q Exerc Sport, 70*(2), 127-134.

[13] Shephard, RJ, Volle, M, Lavalee, H, LaBarre, R, Jequier, JC, & Rajic, M. (1984). Required Physical Activity and Academic Grades: A Controlled Longitudinal Study. In *Children and Sport*, Llmarinen & Valimaki (Ed.). Berlin: Springer Verlag, 58-63.

[14] California Department of Education. (2002). *Physical Fitness Results for California's Students.* Retrieved January 9, 2003 from http://www.cde.ca.gov/statetests/pe/pe.html.

[15] Tufts University. (1998). *The Link between Nutrition and Cognitive Development in Children.* Poverty and Nutrition Policy, Center on Hunger, Tufts University.

[16] Murphy, JM, Pagano, ME, Nachmani, J, Sperling, P, Kane, S, & Kleinman, RE. (1998). The Relationship of School Breakfast to Psychosocial and Academic Functioning. *Arch of Pediatric and Adolescent Med, 152,* 899-906.

[17] Minnesota Department of Children, Families, and Learning. (1997, February). *School Breakfast Programs: Energizing the Classroom*.

[18] Department of Health and Human Services. (1996, June 14). Guidelines for School Health Programs to Promote Lifelong Healthy Eating. *Morbidity and Mortality Weekly Report Recommendations and Report, 45*(RR-9).

[19] Burghardt, J, & Devaney, B. (Eds.). (1995). The School Nutrition Dietary Assessment Study. *American Journal Clinical Nutrition, 61* (suppl), 213S-220S, 230S-240S.

[20] CDC. (Spring/Summer 1999). *Chronic Disease Notes & Reports, 12*(2).

[21] USDA Food and Nutrition Service. (2000, September). *Changing the Scene, Improving the School Nutrition Environment: A guide to Local Action.*

[22] Eggert, LL, Thompson, EA, Herting, JR, et al. (1994): Preventing Adolescent Drug Abuse and High School Dropout through an Intensive School-Based Network Development Program. *American Journal of Health Promotion, 8*(3), 202-15.

[23] Hawkins, J.D. et al. (1999). Preventing Adolescent Health Risk Behavior by Strengthening Protection During Childhood. *Archives of Pediatrics and Adolescent Medicine, 153*(3), 226-34.

[24] O'Donnell, J, et al., (1995), *Amer J Orthopsychiat, 65*(1), 87-100.

[25] Elias, MJ, et al., 1991, *Amer J Orthopsychiat; 61*(3), 409-417.

[26] Eggert, LL, et al., (1994), *Am J Health Promot, 8*(3), 202-215.

[27] Klerman, L. (1988). School absence-A health perspective. *Pediatric Clinics of North America, 25*(6), 1253-1269.

[28] Cross, AW. (2002, October). *Health and Academics*. Presentation at the American School Health Association Conference, Charlotte, NC. University of North Carolina at Chapel Hill. Retrieved November 2002, from http://www.hpdp.unc.edu/index.cfm?fuseaction=home.keynote.

[29] Iowa Health Enterprise Planning Team. (2001, June). *Quarterly Result Report.* State of Iowa: Des Moines, IA.

[30] Mitchell M. (2000*). Public Health Reports, 115*, 222-227.

[31] Nagya, R. (2000). *Applied Economics, 32*, 815-822.

[32] Blair, SN, et al. (1987). *Journal of School Health, 57*(10), 469-473.

Selected Resources

California School Boards Association. (2002). *Linkages Between Student Health and Academic Achievement*. Retrieved November 2002, from http://www.csba.org/is/ch/linkages.htm.

Cawelti, G. (Ed.). (1999). *Handbook of Research on Improving Student Achievement* (2nd ed.). Educational Research Service.

Center for Health and Health Care in Schools. (2002). *Improving Academic Performance by Meeting Student Health Needs*. Retrieved November 2002, from http://www.healthinschools.org/education.asp.

Centers for Disease Control and Prevention (CDC). (2003). *Division of Adolescent and School Health Coordinated School Health*. Retrieved October 2002, from http://www.cdc.gov/needphp/dash/funding.htm.

Council of Chief State School Officers. (2003). *Building Bridges to Healthy Kids and Better Students: An Action Guide*. Washington, DC: Author.

Council of Chief State School Officers and Association of State and Territorial Health Officials. *School Health Starter Kit: Why Support a Coordinated Approach to School Health*? Retrieved November 2002, http://www.astho.org.

Marx, E, Wooley, S, & Northrop, D. (Eds.). (1998). *Health is Academic: A Guide to Coordinated School Health Programs*. Williston, VT: Teachers College Press. Health is Academic: Creating Coordinated School Health Programs. Retrieved October 2002, from http://www.edc.org/HealthAcademic.

Society of State Directors of Health, Physical Education, and Recreation (SSDHPER) and Association of State and Territorial Health Officials (ASTHO). *Health Behavior and Student Success*. Retrieved November 2002, from http://www.thesociety.org and www.astho.org.

World Health Organization (WHO) and Education International. (2002). *Promoting Health in Schools Worldwide*. Retrieved December 2002, from http://www.who.org.

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